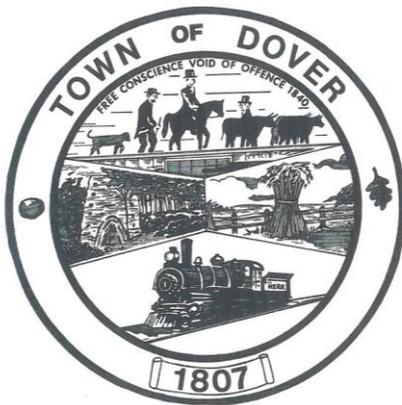


Town of Dover, NY

Climate Smart Communities Certification Program

A Review of Plans, Policies and Procedures Using the Climate Smart Resiliency Planning Checklist



**Prepared by:
The Town of Dover and the Climate Smart Dover Task Force
in collaboration with
the Housatonic Valley Association, Inc.**

July 31, 2019

Acknowledgments

August 2019



We are pleased to present this publication, the 2019 Town of Dover’s “Review of Plans, Policies and Procedures Using the Climate Smart (Communities) Resiliency Planning Checklist. It is our hope that future generations of Dover officials and residents will continue to inspire awareness and activism about the undeniable threats of climate change upon our Town’s resplendent natural resources and the planet that we, and all humankind, lovingly call “Home.”

Sincerely,
The Town of Dover Town Board

Supervisor Linda S. French
Deputy Supervisor Andrew House
Councilman Richard Yeno
Councilwoman Jane Meunier
Councilman Redmond Abrams

This project was funded in part by the Climate Smart Community Program, Title 15 of the Environmental Protection Fund through the New York State Department of Environmental Conservation.

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- NYS DEC’s Office of Climate Change
- NYS DEC Office of Climate Change’s Climate Policy Analysts Dazzle Ekblad, Willow Eyres and Myra Fedyniak
- Michael Jastremski, Watershed Conservation Director, Housatonic Valley Association, Inc.
- the Town of Dover Conservation Advisory Council and the Climate Smart Dover Task Force:

- ✚ Evan van Hook, Chair, Conservation Advisory Council and CSDTF Co-Chair
- ✚ Constance DuHamel
- ✚ Debra Kaufman
- ✚ Gregory Mendenhall
- ✚ Janet Pickering
- ✚ Tamar Roman
- ✚ Supervisor Linda S. French

- Town Clerk Katie Palmer-House, Ed. D. and Co-Chair, Climate Smart Dover Task Force and
- Deputy Town Clerk Bonnie Franks.

This report was completed as our country marked the 50th anniversary of the Apollo 11 (first) landing on the Moon. Astronaut Neil Armstrong’s afterthought on his words, “One small step for man, no giant leap for mankind” capture the essence of our hope that future generations will judge us kindly for this effort to show them how much we cared.



“I thought, when I step off, it’s going to be a small step, a step from here down to there. But then I thought about all those 400,000 people who had given me the opportunity to make that step, and I thought, it’s going to be something big for all those folks.”

Neil A. Armstrong, Apollo 11 Astronaut
(1930 – 2012)

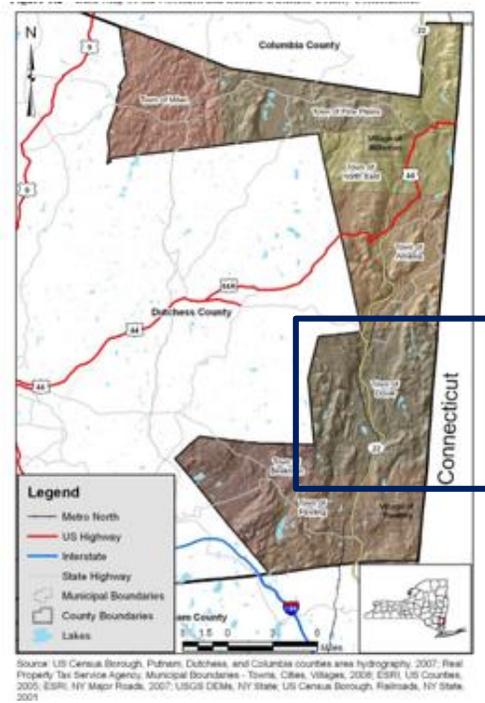
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Introduction: Brief Climatic Background on the Town of Dover in Dutchess County

The Town of Dover is located in southeastern Dutchess County, NY with a population of 8,699 residents (U.S. Census, 2018), bordered by the Towns of Amenia, Pawling, Union Vale, Washington, NY and the State of Connecticut. Situated in a north-south valley of calcareous wetlands named the Harlem Valley, Dover’s development is primarily in the valley bottom and on mountainous slopes of the areas between East and West Mountains. The Ten Mile River, a tributary of the Housatonic River, traverses Dover and historically was used by early settlers for homestead farming, water mills and later, for electricity generation. Another important tributary of the Housatonic, the Swamp River, with headwaters that flow from the Great Swamp (New York’s largest freshwater wetland complex, meets the Ten Mile River in Dover.



Map with the location of the Town of Dover in Eastern Dutchess County (2010, NEDC AHMP)

The confluence of Dover’s enduring natural elements, namely, flowing water, valley, mountains and calcareous soils affords matchless scenic beauty, rich biodiversity and plentiful environmental resources for residents and visitors alike. Concurrently, the interdependence of natural elements, the exigencies of residential and economic development, and the impact of climate change have resulted in awakened awareness and a clarion call to explore new ways to improve our resilience to climate change-related vulnerabilities.

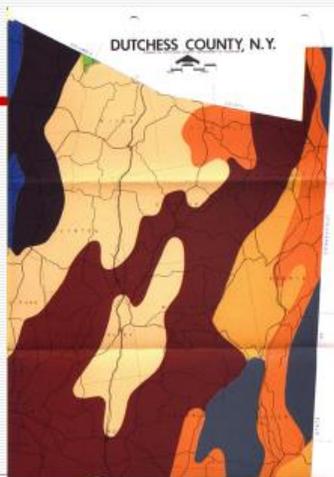
Soils

The Town of Dover has two basic soils:

- Nellis (orange); good for farm land and gravel underbase
- Steep Rock Outcrop (blue); natural element for mining

For that reason, early industries included:

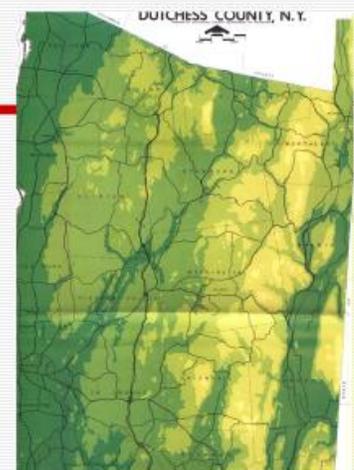
- Farming
- marble mines
- lime quarries



Elevations

The Town of Dover has two diverse elevations: high mountains and low plains.

- Dark green: valley floors and elevations up to 300 ft.
- Yellow-green: mountain elevations from 600- 1200 ft.



Identifying Climate Hazards for the Town of Dover

After a series of weather-related flooding events in 2005, 2007 and 2009, the Town of Dover, in collaboration with eight neighboring municipalities, developed a multi-jurisdictional All Hazards Mitigation Plan (AHMP) approved by FEMA in 2010. Dover and the AHMP consultant reviewed historical and anecdotal data to identify the predominant natural hazards from a list of 23 geophysical (atmospheric, hydrologic, and geologic) events.

Following the identification of local natural hazards, data from state and federal sources were triangulated to assess the significance of these hazards for discussion in the AHMP. In the end, Dover identified 13 natural hazards of local significance. The specific natural hazards identified for the Town of Dover included: Extreme Temperature, Extreme Wind, Hurricane/Tropical Storm, Lightning, Nor'easter, Tornado, Winter Storm, Drought, Flood, Ice Jam, Earthquake and Wildfire. To review the Town's 2010 AHMP and the 2015 Dover Annex to Dutchess County's AHMP, please visit <https://townofdoveryny.us/AHMP.cfm>.

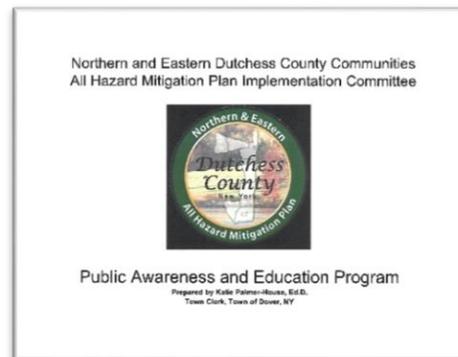
**Table 3a.1
Summary of Profiled Hazards by Jurisdiction**

Jurisdiction	Extreme Temperatures	Extreme Wind	Hurricane / Tropical Storm	Lightning	Nor'easter	Tornado	Winter Storm	Dam Failure*	Drought	Flood	Ice Jams	Earthquake	Wildfire
Amenia, Town of	■	■	■	■	■	■	■	■	■	■	■	■	■
Beekman, Town of	■	■	■	■	■	■	■	■	■	■	■	■	■
Dover, Town of	■	■	■	■	■	■	■	■	■	■	■	■	■
Milan, Town of	■	■	■	■	■	■	■	■	■	■	■	■	■
Millerton, Village of	■	■	■	■	■	■	■	■	■	■	■	■	■
North East, Town of	■	■	■	■	■	■	■	■	■	■	■	■	■
Pawling, Town of	■	■	■	■	■	■	■	■	■	■	■	■	■
Pawling, Village of	■	■	■	■	■	■	■	■	■	■	■	■	■
Pine Plains, Town of	■	■	■	■	■	■	■	■	■	■	■	■	■

List of natural hazards included in the 2010 Northern and Eastern Dutchess Communities AHMP

In 2010, the Town of Dover proposed following mitigation actions for implementation:

- Create a hazard information resource library to organize and provide public access to studies and reports on natural resources.
- Develop and disseminate educational materials to improve public awareness and knowledge about the impact of local natural hazards.



<https://townofdoveryny.us/AHMP.cfm>

- Update the Town’s floodplain ordinance to better regulate development, reconstruction, grading and filling of flood-prone properties.
- Identify and prioritize roadways and culverts with flood-related issues and damage.
- Explore and pursue mitigation funding opportunities for repetitively-flooded properties.
- Develop and adopt water allocation actions to be implemented during moderate to severe drought.
- Create and disseminate educational and emergency preparedness materials to improve public safety and awareness.
- Implement a monitoring plan and early warning measures for key locations along the Ten Mile and Swamp Rivers.
- In consultation with DEC Forest Protection, prepare detailed mapping of wild and urban interface areas.
- Implement landscaping practices on town roads to reduce travel hazards.
- Develop educational materials regarding maintenance of heating and cooling systems.
- Identify town locations for heating and cooling emergencies and a notification process for vulnerable populations and
- Develop and publicize educational materials about emergency preparedness during extreme water events.

Steps to Help Reduce Risk from Natural Hazards
Step 1: Get Ready!

- Visit FEMA’s “Are You Ready?”  FEMA website and review the
- “Make a Plan” and “Build a Kit” links
- <http://www.ready.gov/make-a-plan>
- <http://www.ready.gov/build-a-kit>
- Prepare a family Emergency Kit and “Go-bag” for every family member (including your pet).

Step 2: “Get in Gear”

- Learn about Identified Natural Hazards in Our Area
- [Dam Failure](#)
- [Drought](#)
- [Earthquake Hazard](#)
- [Extreme Temperatures \(Cold/Heat\)](#)
- [Extreme Wind](#)
- [Flood](#)
- [Hurricane and Tropical Storm](#)
- [Ice Jams](#)
- [Lightning](#)
- [Tornadoes](#)
- [Winter Storm and Nor'easters](#)
- [Wildfire](#)



Step 3: "Get Involved" in Building Your Community's Capacity to Anticipate and Mitigate Damage from Natural Hazards



- 1) Observe and Follow Building Codes and Zoning Ordinances
- 2) Assist with the Development and Updates of Your Town's or Village's Master Plan
- 3) Volunteer to Review and Strengthen Your Community's Emergency Response Plan

2010-2019 Initiatives to Help Improve Dover's Climate Resiliency and Adaptation

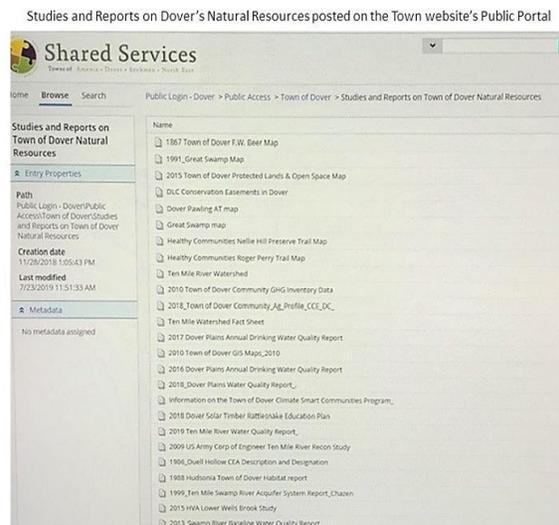
Since the adoption of the 2010 AHMP, the following mitigation actions were completed:

- Information on the predominant natural hazards identified in the AHMP were posted to the Town of Dover's website for public awareness and education (<https://townofdovery.us/AHMP.cfm>)
- The Town of Dover amended Town Code Chapter 81, "Flood Damage Prevention," in May 2012 and it is available on the Town of Dover's website at <https://ecode360.com/DO1139>.
- In 2013, the Dover Town Clerk's Office completed a records-focused Disaster Management Plan with funding assistance of a New York State (Records) Archives grant.

- Copies of natural resource studies about Dover were scanned and posted to the Town website's Public Portal to provide a digital library for public information on Dover's environmental assets and potential vulnerabilities.

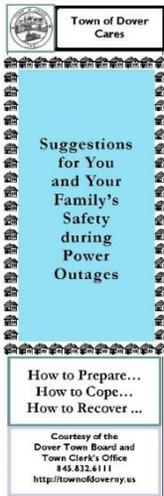


- In 2015, a propane-fueled electric generator and public Wi-Fi were installed at Dover Town Hall to enhance continuity of Town operations during a power outage and provide temporary comfort station and mobile device-charging facilities for residents.



Natural resource studies posted on Town website's Public Portal <https://townofdovery.us/DoverPublicPortal.cfm>

- The Town of Dover updated its 2010 AHMP in 2015 and joined the county-wide Dutchess County AHMP. Updated information included implementation actions achieved since the 2010 Plan, construction of new or significant facilities, a review of municipal planning and regulatory tools related to natural hazard mitigation and recovery, and a self-assessment of administrative, technical/staff and fiscal capabilities for disaster.



The pamphlet, “Town of Dover Cares: Suggestions for You and Your Family’s Safety during Power Outages” was prepared and posted on the Town’s website.

- An “Emergency Info” webpage was added to the Town website’s (<https://townofdover.ny.us/cancellations.cfm>) with resources on emergency supplies, enrollment in NY-Alert Notification System, and information from the Dutchess County’s Emergency Response website.
- Town of Dover officials participated in an Eastern Dutchess regional training about operating a municipal-sponsored emergency shelter facilitated by the local American Red Cross and NYS Office of Emergency Management.

- The Town of Dover Code’s Chapter 15, “Emergency Action Plan,” was updated and adopted in 2018 based on information from the FEMA Emergency Management Institute’s website.

- In 2016, the Dover Town Board registered as a NYS DEC’s Climate Smart Community (CSC) Program and since then has received two CSC certification grants to implement priority actions toward bronze-level certification.

The next section discusses the Town’s progress toward completing CSC certification that underlies the scope and context of this review of municipal plans, policies and procedures using the Climate Smart Resiliency Planning Checklist.

The Town of Dover’s Climate Smart Certification Program

The Dover Town Board adopted the Climate Smart Communities Pledge in July 2016 and established the Climate Smart Dover Task Force in conjunction with the Town’s Conservation Advisory Council (CAC).

In 2017, Dover received a NYS DEC CSC certification grant to complete four priority certification projects: 1) a town-wide road-stream crossing inventory; 2) a natural resource inventory; 3) a government operations greenhouse gas (GHG) emission inventory, target reduction plan and climate action plan and 4) a review of town policies, publications and procedures using the Climate Smart Resiliency Planning Checklist. In addition to these actions, the Climate Smart Dover Task Force and town officials have implemented other community-based actions toward certification.



Intermunicipal Natural Resource Protection Initiatives

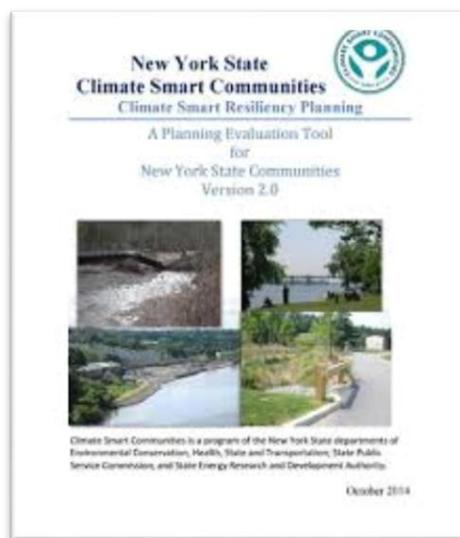
Town officials and the Conservation Advisory Council members have also participate in the intermunicipal Ten Mile River (TMR) Watershed Collaborative, a committee of local and regional officials, environmental nonprofit and watershed protection agencies, established to protect the water quality of the TMR watershed by developing a comprehensive watershed management plan.

In 2019, Dover received a second Climate Smart Communities Certification Program grant to develop a Sustainability Element (chapter) to include in the Town's Comprehensive Plan Update currently in development. The Dover Climate Smart Task Force is currently collaborating with neighboring CACs in Amenia and North East on an intermunicipal Climate Smart-themed traveling art exhibit event scheduled for fall of 2019.

Assessing the Town of Dover's "Climate Smart Resiliency"

The term "Climate Smart Resiliency" was coined by the NYS DEC's Office of Climate Change to describe a municipality's resources, namely the plans, policies and procedures to help ensure the safety, health and welfare of residents to address the impacts of climate change.

In 2017, the Town of Dover received a NYS DEC Climate Smart Communities Certification Program grant to complete Pledge Element 7, Action Item 7.3, "A Review of Existing Community Plans, Policies and Projects to Identify Opportunities to Decrease Vulnerability to Climate Change." The action item involves a guided self-assessment of municipal plans, ordinances, codes using the NYS DEC's Climate Smart Resiliency Planning Checklist.



The process of assessing Dover's resiliency to climate change involved a four-step process of:

- 1) identifying climate hazards
- 2) assembling municipal plans
- 3) completing the self-assessment (using the Climate Smart Resiliency Planning Checklist) and
- 4) developing recommendations to:
 - reduce municipal vulnerabilities to the negative impacts of climate change
 - improve public outreach and engagement

- integrate municipal plans to improve overall resilience
- review and update disaster preparedness and recovery procedures and
- implement hazard mitigation actions to reduce or eliminate long-term risks.

This publication was funded in part by the Climate Smart Community Grant Program, Title 15 of the Environmental Protection Fund, through the New York State Department of Environmental Conservation. We are grateful for their financial support and technical assistance.

The Town utilized the professional services of the Housatonic Valley Association, Inc. (HVA), a nonprofit watershed protection and environmental conservation organization, to facilitate the assessment. The Town’s Climate Smart Dover Task Force and Conservation Advisory Council oversaw the project through monthly meetings, a meeting with the HVA staff member and reviews of document drafts. The HVA director presented draft findings at a Town Board regular meeting and met and consulted with the grant’s project director during the development of the first and final drafts.

Step 1: Prepare for the Assessment

To prepare for the assessment we compiled copies of all municipal plans, ordinances and codes for review by the HVA project consultant. The Town provided the following documents that were used to identify vulnerabilities and risks as the first step in reducing hazards:



- **Town’s Master Plan** (last completed in 1993; currently being updated as a Comprehensive Plan Update)
- **Town Zoning Ordinance** (to be updated as part of the Town’s Comprehensive Plan Update slated for completion in 2020)
- **Chapter 88 of the Greenway Connections Open Space Plan**
- Working draft of the **town-wide natural resource inventory** (currently in development at the time of this publication)
- **2015 Dutchess County Multi-Hazard Mitigation Plan with a Town of Dover Annex**
- **2010 Northern and Eastern Dutchess Communities All Hazards Mitigation Plan**
- **Town of Dover’s Flood Damage Prevention Ordinance** (adopted in 2012 as Town of Dover Code Chapter 81)

- **FEMA Flood Insurance Study Report** (Dutchess County, 2012)
- Town of Dover Code, **Chapter 15, “Emergency Action Plan”** (updated 2018)
- **2019 Town of Dover Government Operations Climate Action Plan**

Since Dover is not a coastal or shoreline community, the Town does not have stormwater management, shoreline restoration or coastal erosion hazard area plans or ordinances.

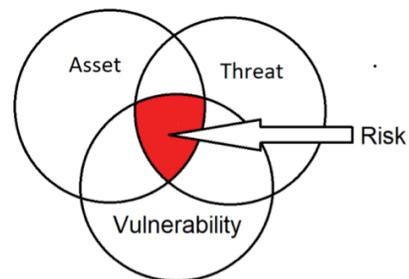
Based on documents and publications reviewed for this self-assessment, we identified the following municipal documents do not exist at this time and are recommended for future development with a focus on climate adaptation and resiliency planning:

- Continuing of Operations Plan
- Disaster Recovery Plan
- Evacuation Plan
- Open Space Plan
- Long-term Recovery Plan
- Economic Development Plan or Strategy
- Capital Improvements Plan
- Historical Preservation Plan
- Local Waterfront Revitalization (Watershed Management) Plan and
- a Community Climate Action Plan.

The next section presents responses to questions in the Climate Smart Resiliency Planning checklist about Town’s strategies for climate hazard adaptation and inform recommendations for official and staff training to help bridge technology gaps and increase municipal resiliency.

Step 2: Vulnerability and Risk Assessment

The Vulnerability and Risk Assessment Section was completed utilizing the Town’s 2010 FEMA-approved Northern and Eastern Dutchess County All Hazard Mitigation Plan (AHMP) and the 2015 Dutchess County AHMP Dover Annex. The Dover Annex of the 2015 AHMP will be updated with the Dutchess County AHMP in 2020. It is anticipated that natural hazards (i.e., extreme temperature, wind, hurricanes, tropical storms, lightning, tornados, wildfires and winter storms) previously identified in the 2010 AHMP will remain the major vulnerability and risks to local climate adaption.



Brief Update on Significant Climatic Events and New Facilities Constructed in Dover from 2010 – 2019

Four significant weather-related events were cited in the Dover annex of 2015 Dutchess County AHMP that resulted in state or local declarations of emergency: a December 2010 nor'easter; March 2011 heavy rainfall with flooding due to snow melt; August - Sept. 2011 rainfall, flooding and high winds from Hurricane Irene, and October - November 2012 high winds from Hurricane Sandy.

According to the National Oceanic and Atmospheric Administration's (NOAA) website, "Past Weather Events," (<https://www.weather.gov/aly/PastEvents>), the following significant regional weather events occurred during the past nine years (2010 to 2019):

- blizzard events occurred during the months of January to March in 2013, 2015, 2016, 2017 and 2018
- nor'easter events occurred during months from January to March in 2017 and in 2018
- a tornado with extended power outages occurred in Putnam County, NY and Fairfield County, CT in May 2018
- sub-zero temperatures and coldest wind chills in Dutchess County in 2015 and 2016.

With regard to patterns in local and regional climatic events, the Dutchess County Department of Planning and Development publication, "*The Natural Resource Inventory of Dutchess County* (2010) noted,

the most striking trend (of climate change in Dutchess County) is the observed and projected increase in frequency and intensity of extreme precipitation events, especially under the high emissions scenario."¹

The report recommended that business and municipal leaders begin planning for climate adaptation and consider the future risks of climate change when planning and making decisions.

New Facilities Constructed in Dover from 2010 – 2019

Redevelopment of the Former Harlem Valley Psychiatric Center

In 2014, a 1000-acre, multi-use parcel in the Wingdale hamlet of the Town of Dover (formerly the Harlem Valley Psychiatric Center) was purchased for development as an educational and residential nonprofit university. The site plan proposes to provide housing for approximately 250 students and course offerings to approximately 450 students at full capacity.

Cricket Valley Energy Center

In 2017, Cricket Valley Energy Center commenced construction of a 1100-megawatt natural-gas fired electricity-generating power plant slated for commission in 2020. The plant will be

¹ Retrieved on July 30, 2019 from <https://www.dutchessny.gov/Departments/Planning/Docs/nrichaptwo.pdf>, p. 29

powered by natural gas obtained from the adjacent natural gas pipeline of the Iroquois Gas Transmission System that extends from the U.S. Canada border to the Bronx, NY. At full capacity, Cricket Valley Energy will generate electricity for 1,000,000 homes. The plant will employ approximately 30 workers after construction.

Dover Solar LLC (Community Solar Farm)

In 2019, Dover Solar, LLC began installation of photovoltaic panels to establish a two megawatt solar array system on approximately 50 acres in Dover Plains that will connect to the NYSEG electric system and provide a source of renewable energy for 500 to 600 homes.

Information on these new facilities and considerations for the impact of natural hazards will be addressed in the Dover annex of the 2020 Dutchess County Multi-Hazard Mitigation Plan.

The next section presents information on federal resources available to assess vulnerability and risk of natural hazards related to climate change using geographic information systems (GIS) technology and programs regarding government-sponsored flood insurance for those who live in floodplain or flood-prone areas.

Federal Resources to Assist Dover with Vulnerability and Risk Assessments of Natural Hazards

The federal government provides two important resources for municipalities to identify vulnerabilities and risk that may reduce the impact of damage from natural hazards:

- 1) HAZUS- MH GIS technology and 2) the National Flood Insurance Program (NFIP).

HAZUS- MH Risk Assessment Technology

HAZUS is a FEMA-sponsored a Geographic Information Systems (GIS) technology and methodology to estimate the physical, economic and social impacts of natural hazards such as earthquakes, hurricanes, floods and tsunami. Estimates proposed from HAZUS technology assist communities in analyzing the potential impacts of physical damage to residential and commercial buildings, schools, critical facilities and infrastructure; economic losses such as lost jobs, business interruptions, repair and reconstruction costs and social impacts of operating community-based shelters and assisting displaced and vulnerable populations.

To date, the Town has not participated in HAZUS-MH GIS training to analyze the social and economic impacts of estimated loss and recovery due to hazard impacts.



HAZUS[®]-MH Risk Assessment and User Group Series

Using HAZUS-MH for Risk Assessment

How-To Guide

FEMA 433 / August 2004



The next section presents opportunities for the Town of Dover to utilize federal resource assistance to improve its adaptation to climate change (highlighted for emphasis in yellow).

Vulnerability and Risk Assessment Opportunity # 1:

Train appropriate municipal employee(s) in the use of FEMA’s HAZUS-MH technology through Emergency Management Institute (Course E0190 ArcGIS for Emergency Managers).

The FEMA Emergency Management Institute offers this course as a prerequisite to Course E0313 Basic HAZUS and E0179 HAZUS for Disaster Operations at the National Emergency Training Center in Emmitsburg, MD (not currently offered as an online independent study course).

National Flood Insurance Program (NFIP)

The National Flood Insurance Program (NFIP) helps parcel owners and municipalities reduce the impact of flood on private and public structures by offering access to flooding insurance coverage and encouraging communities to adopt floodplain management regulations.

Flood insurance coverage covers specific damages to buildings and contents from flooding such as:

- Damage to structure such as wall, floors, heating and cooling systems, large appliances, cabinets and/or attached bookcases (the maximum building coverage is \$250,000).
- Contents coverage insures items such as clothing, furniture, small appliances, bedding and other household items (the maximum contents coverage is \$100,000).

Items and structure covered by flood insurance may be obtained from an insurance carrier. A list of up-to-date items covered and not covered by NFIP is available at www.floodsmart.gov.

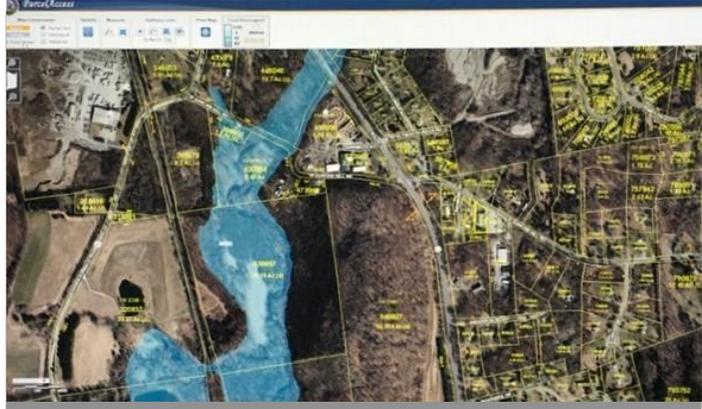
The Town of Dover does not currently track riverine repetitive loss properties or estimates of future financial losses.

In 2012, FEMA published a flood insurance study of all jurisdictions in Dutchess County (Community Number 361335). At that time, the Dover Town Board adopted Local Law No. 1 of 2012 entitled, “Chapter 81, Flood Damage Prevention, to amend the prior 1987 law along with the 2012 FEMA Flood Insurance Study, Letter of Map Revision (LOMR), and a revised Flood Insurance Rate Map Panel No. 36027C0427E. The Town’s ordinance, Chapter 81, “Flood Damage Prevention” is available on the Town website.

On the Dutchess County website’s Parcel Access/Parcel Mapping webpage, (<https://gis.dutchessny.gov/parcelaccess/>), parcel owners and others may view aerial maps of parcel using a floodplain overlay with digital flood insurance rate map (DFIRM) information.

Vulnerability and Risk Assessment Opportunity # 2:

Town of Dover parcel owners who own land near or in FEMA-identified floodplains or flood hazard zone risk classifications (specifically, Zones A, AE and AO) should investigate federal, county and state agencies and resources to educate themselves about natural hazard vulnerability and risk on their parcels and take actions to prevent, reduce or mitigate threats to their dwellings and other structures.



Dutchess County's GIS Parcel Access/ Mapping Application

Information on floodplain mapping services is also offered by two local agencies, Cornell Cooperative Extension of Dutchess County's Geographic Information Systems (GIS) Lab and the Dutchess County Department of Planning and Development's GIS Services. Information on these resources follows.

**Cornell Cooperative Extension of
Dutchess County's Geographic
Information Systems (GIS) Lab**



**Cornell University
Cooperative Extension
Dutchess County**

The GIS Lab of Cornell Cooperative Extension of Dutchess County (CCEDC) assists municipalities, environmental organizations and parcel owners with training on the international Environmental Systems Research Institute's (ESRI) Arc GIS software and data as well as printed version of GIS maps and data for standard fees (please visit www.ccedutchess.org and select, "CCEDC's GIS Lab").

In collaboration with the Dutchess County Dept. of Planning, Dutchess Land Conservancy and the NYS DEC Hudson River Estuary Program, CCEDE offers GIS training for municipal planning and zoning board members, conservation advisory councils and interested citizens for a nominal registration fee.

Dutchess County Department of Planning and Development's GIS Service

Dutchess County government assists municipalities and residents with digital and large or small format map printing and mounting. According to the County's Dept. of Planning and Development's website, commonly requested GIS data includes tax parcel lines, address point files, structure rooflines over 400 sq. ft., five-foot contours, road centerline and edges and watershed datasets.



There are also online data regarding municipal boundaries, government facilities, historical aerials and other topical data layers on the County's QuickLink on GIS weblink or at www.gis.ny.gov.

Vulnerability and Risk Assessment Opportunity #3:

Town elected and land use board members should utilize county government and local land protection agencies to better understand the potential damage from the negative impacts of climate change on vulnerable neighborhoods and consult their expertise in making decisions on zoning and land development applications.

At the time of this publication, the following agencies are included, but not limited to, additional local resources for town elected and appointed officials for technical information, studies and professional expertise on land use and development-related issues:

- Dutchess Land Conservancy, Inc. <https://dutchessland.org/>
- Housatonic Valley Association, Inc. <https://hvatoday.org/>
- Pace Land Use Law Center <https://law.pace.edu/landuse>.
- Hudsonia, Ltd. <https://hudsonia.org/>
- Dutchess County Soil and Water Conservation District <https://dutchessswcd.org/>.



Climate Smart Resilience Planning

Identifying Opportunities to Adapt to Climate Change

Additional Opportunities based on Review of Climate Smart Resiliency Planning Checklist

The NYS Department of Environmental Conservation's Climate Smart Communities Certification Program is also an invaluable resource to communities to help local leaders with municipal vulnerability and risk assessment resources, Climate Smart Communities certification and implementation grant programs, and climate change research. The following items provide additional opportunities based on recommendations from the Climate Smart Resilience Planning Checklist:

- **Ensure municipal staff and officials understand what areas of town are most susceptible to natural hazards and what populations could be most affected by familiarizing them with information compiled from FEMA floodplain maps, the town-wide road-stream crossing inventory and ongoing updates of the Town’s hazard mitigation plan. Ensure officials and staff also understand the limitations of these data.**
- **Facilitate training opportunities for the Town’s building inspector/floodplain administrator in using Flood Insurance Rate Maps (FIRMs), with local and FEMA training in ESRI GIS data interpretation and the National Flood Insurance Program, and with educational qualifications to become a certified floodplain manager (information available at www.nyfloods.org, then select “CFM Certification”).**
- **Conduct an analysis of future flood risks under different climate scenarios. (This analysis could be conducted with other watershed communities as a Climate Smart Communities certification action item 7.10).**
- **Update and expand the map in Section 9.7 of the 2015 Dutchess County Hazard Mitigation Plan, Town of Dover Annex, and incorporate updated current and future land use planning in these areas:**
 - **at risk populations including elderly, children, poor and disabled individuals**
 - **at risk buildings including businesses and residences that are prone to flooding**
 - **at risk infrastructure including roads, schools, power plants, fire stations, medical facilities and drinking water treatment facilities**
 - **natural resource such as wetlands, critical habitats and rare species**
 - **cultural resources such as historic districts, properties, museums, libraries and community assets.**
- **Build capacities of town officials, board members and staff to use GIS to help integrate vulnerability assessments into land use planning.**
- **Explore enrolling in the National Flood Insurance Program (NFIP) and Community Rating System (CRS). The CRS is a voluntary program that encourages proactive community floodplain management that exceeds the minimum requirements. (2017 Information on the CRS Program and a list of CRS-eligible communities in NYS follows in the Appendix).**
- **Develop and maintain an inventory of properties damaged by flooding.**

The next section discusses the Town’s hazard-related communication strategies with residents and community members to encourage and strengthen preparedness in the event of a significant climate-related event. The conclusion presents opportunities and recommendations for town officials to implement that increase residents’ knowledge of local climate hazards and programs to reduce preventable risks and increase personal and community safety.

Step 3. Public Outreach and Engagement

The relationship between climate change and the community’s understanding of increased preparedness is still emerging for many Dover residents. For those who live in the northeastern United States, a climate of varietal yet traditional four seasons, namely cold winters, rainy springs, hot summers and temperate autumns are emblematic of New York’s Hudson Valley cultural character.



Dr. Steven Chu, professor of physics at Stanford University writes, ***“The climate is changing. The proper political debate would be how to deal with these risks.”*** The next section describes some of the anticipated climatic changes in New York State and the possible impacts for Dover residents who might be more vulnerable based on demographic and/or economic factors.

How Climate Change Will Continue to Affect the Town of Dover

The NYS DEC’s webpage, “The Impacts of Climate Change” presents the following information about the impact of climatic changes for New York residents over the coming decades:

- New York will experience greater more precipitation in the winter and less in the summer
- Spring now begins a week earlier in New York than it did years ago
- Temperatures in New York State are expected to increase by three degrees in the 2020s, by six degrees by the 2050’s and 10 degrees by the 2080’s
- New York State’s breeding bird and oceanic fish population ranges have shifted northward over the past decades and pollinating bees arrive 10 days earlier than they did in the 1880s
- Sea level along the New York coast has risen over a foot since 1900. (Retrieved July 24, 2019, (<https://www.dec.ny.gov/energy/94702.html>)).

The negative impacts of climate change appear in direct and indirect climatic and weather-related forms. Public outreach and community engagement require helping residents make paradigm shifts in perceptions of climate change as real and to help imprint proactive behaviors to ameliorate human sources of negative impact. The Town's progress in efforts toward achieving NYS DEC's Climate Smart Communities certification that include taking government-sponsored actions and cultivating community knowledge about climate change are critical first steps.

According to the U.S. Census Quickfacts "Dover Town, Dutchess County, New York," 15.2% percent of the Town's populations under 65 years of age identify themselves disabled and 14.6% of persons in poverty.²

In the Dover Plains and Wingdale hamlets, many homes were built in the early 1900's and have been converted to multi-family units. Some neighborhoods of Dover still have limited cellular and broadband service and areas of poor or no internet connectivity. Residents who are homebound, economically stressed, chronically ill or with special needs are likely most vulnerable to the negative impacts of climate change. In rural communities such as Dover, when transportation and sustaining personal and household needs (i.e., food shopping, medical care, community services) are restricted due to extended isolating weather-related events, individuals and families with situational hardships become at risk for health and well-being crises.

To communicate with the public during emergencies, the Town utilizes its official website and Facebook page to disseminate information about free emergency-related provisions such as dry ice, bottled water and ready-to-eat meals. In 2015, a commercial (electricity) generator was installed in order that Dover Town Hall can serve as a comfort and mobile device-charging facility during extended power outages. The Town and the Dover School District also cooperate in providing facilities (i.e., showers, heating/cooling station, snacks/meals) at Dover High School. When available, Dutchess County has generator-powered mobile signage and stationary signage in front of Dover school buildings could also be utilized to publicize community service announcements.

Additional Opportunities for Dover to Increase Community Adaptation to Climate Change

Based on review of the Town's public outreach and engagement strategies related to climate hazards, these additional opportunities to improvement are recommended:

- Facilitate a community-municipal mapping program to identify locations of significant environmental, cultural social and economic features.
- Conduct periodic local or regional public information trainings and workshops about preparing for storms and natural disasters utilizing existing information from FEMA, NOAA and other organizations specializing in natural hazard education.

² Retrieved July 24, 2019, <https://www.census.gov/quickfacts/dovertowndutchesscountynyork>

- Provide information for residents to prepare at-home emergency kits, Go-bags and emergency supplies for guidance on development of personal and family evacuation and shelter-in-place strategies.
- Identify and prepare personnel and resources to assemble a community shelter and provide training for officials and other volunteers on shelter implementation and management.
- Disseminate floodplain maps and educate property owners in those areas about historical hazards and mitigation programs to improve the structures in flood prone, high-hazard areas.
- Educate residents about disaster preparedness for domesticated animals and locations of pet shelters.
- Identify and educate residents about expected inundation areas, evacuation bus pick-up locations and evacuation route signage in the event of a mass hazard-related relocation.
- Install high-water mark signs in public areas to educate the community about flood risk
- Ensure natural hazard educational and essential information are multi-lingual and culturally sensitive and conduct periodic meetings about severe weather preparedness.
- Educate the community about the natural and beneficial functions of floodplains, wetlands and green infrastructure.
- Publicize information about enrollment in NY-Alert for residents to receive critical information and emergency notification/alerts and safety related messages and
- Continue Town's participation in the multi-jurisdictional Ten Mile River Watershed Collaborative and utilize collaborative resources to develop a Local Waterfront Revitalization Program component and/or prepare a watershed management plan.

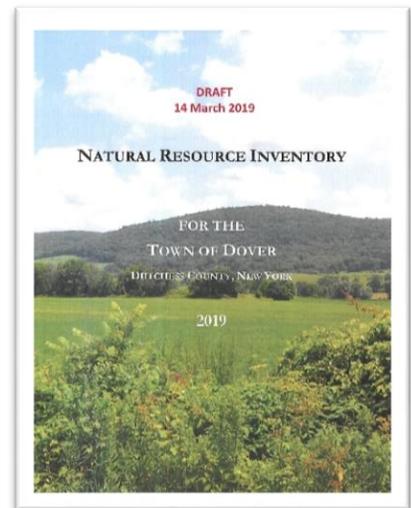
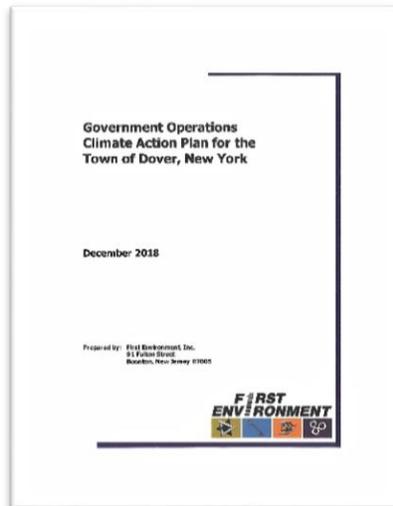
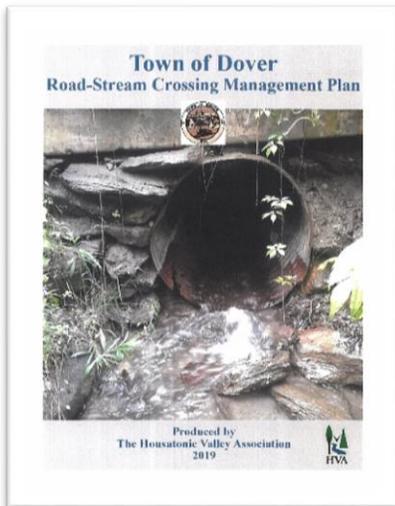
The next section describes the Town's planning documents to identify high-hazard vulnerabilities and the extent to which those plans may be integrated to achieve outcomes that improve overall climate adaptation goals.

Step 4: Integration of Municipal Plans

The Town's Master Plan was adopted in 1993 (with an amendment in 1999) and a Comprehensive Plan Update is currently in development. With funding support of a 2018 NYS DEC Climate Smart Communities (CSC) Certification Program grant, this publication and the following documents will be applied toward CSC certification:



- a town-wide Road-Stream Crossing Inventory and Vulnerability Assessment Study
- Government Operations Greenhouse Gas Emissions Inventory and Target Reduction Plan
- Government Operations Climate Action Plan and the
- Town of Dover Natural Resource Inventory.



Publications completed (or in development) toward completing CSC certification with funding in part through the NYS DEC's Office of Climate Change

The Town received a second Climate Smart Communities (CSC) Certification grant in 2019 to develop a Sustainability Element (chapter) to its Comprehensive Plan Update. Objectives the sustainability element will include, but are not limited to:

- incorporate Climate Smart Communities certification activities as actions for sustainable development within these focus areas:
 - a) alternative modes of transportation (including strategies for bicycles, pedestrians, public transit and electric vehicles)

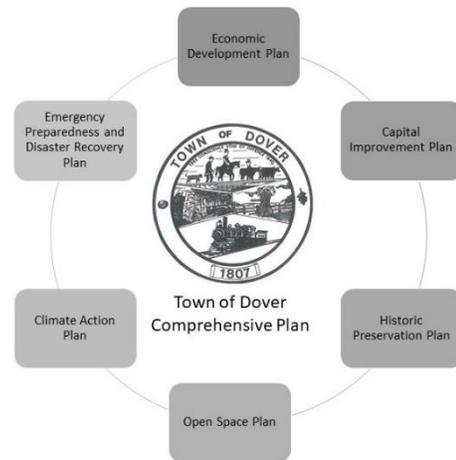
- b) promote smart growth in land use policies
- c) conserve natural areas (including strategies to designate open space and protect it from development)
- d) promote a healthy and safe community
- d) foster equity (including strategies for housing, schools, transportation, recreation, food and environmental exposures)
- f) foster green economic development
- g) decrease dependence on fossil fuels and support energy efficiency and renewable energy production
- h) foster the efficient use of natural resources (i.e. water conservation)
- i) promote the development of (conservation of) local food
- j) minimize solid waste (including strategies to promote recycling and composting or anaerobic digestion of organic materials)
- k) protect drinking water sources from pollution and
- l) promote adaptation to climate change (including strategies related to land use and public education and engagement).

The completion and adoption of the Sustainability Element is anticipated by mid-2020.

Based on the Town's self-assessment using the Climate Smart Resilience Planning Checklist, Town's the following opportunities were identified to improve the development and integration of municipal plans.

Opportunities to Improve the Town's Development and Integration of Municipal Plans

- Finalize and adopt the Comprehensive Plan Update and zoning updates that identify flood-prone lands and discourage development in those areas (or require strategies to reduce flood damage to buildings)
- Incorporate how land use recommendations in the impending Comprehensive Plan Update utilized information identified in the Natural Hazard Mitigation Plan (i.e., equitable approaches to decisions about repeatedly flood properties)
- Adopt building code standards that promote flood-resistant buildings
- Adopt policies that encourage development in safer growth areas in the community
- Develop a Town Capital Improvement Plan that supports development in safer growth areas
- Adopt concepts of “No Adverse Impact” of the Association of State Floodplain Managers
- Develop a Town Open Space Plan in coordination with the NYS open space plan
- Update municipal maps that indicate local hazard risks such as flood zones and a town-wide floodplain management plan
- Update intergovernmental and neighboring local governments mutual aid agreements in coordinating intermunicipal disaster responses
- Assist building inspector/code enforcement officer with floodplain management certification training and
- Municipal participation in the National Flood Insurance Program (NFIP).



The next section presents the findings of a review of the Town's disaster preparedness and recovery planning documents.

Step 5: Disaster Preparedness and Recovery



In June 2018, the Town of Dover Town Board amended its ordinance on disaster preparedness and adopted a new local law entitled, “Emergency Action Plan.”

As recommended in the NYS Climate Smart Communities publication, “A Planning Evaluation Tool for New York State Communities Version 2.0,” the following components were included to better promote Dover’s resilience and recovery:

- Established a hierarchy of authority to designate interim successors, Organizational chart with positions of incident commander, public information officer, safety officer and other town officials to distribute responsibilities of disaster management
- Prepared and distributed a contact list of town and firematic officials (for disaster informational use)
- Designated Dover Town Hall as the emergency command center (EOC) and installed commercial emergency generator
- Created an “Emergency Info” webpage on the Town’s website and provides information about enrollment in the NY-Alert Program.

Additional opportunities proposed in the Climate Smart Resiliency Planning Checklist where the Town can improve resilience to disaster and facilitate recovery include:

- **Develop a community evacuation plan (including assistance for populations with special needs), a continuity of business operations plan, and post-disaster short and long-term recovery plans**
- **Establish and train a volunteer Community Emergency Response Team (CERT)**
- **Develop heat warming system and cooling-center programs that also address issues of transportation obstacles, effects of power outages, flood and other needs of vulnerable populations**
- **Identify and designate areas for temporary waste management and disposal staging areas**

- **Develop procedures to conduct habitability and substantial damage assessments for structures in hazard areas and**
- **Adopt legislation regarding floodplain development limits that prohibit or reduce any new encroachment in river corridors and fluvial erosion hazard areas.**

The last section presents the review and recommendations of hazard mitigation policies, procedures and plans to assist Dover leaders in taking proactive steps to help reduce or eliminate preventable risks of natural hazards.

Step 6: Hazard Mitigation

The impact of climate change manifested by the increasing volatility of seasonal weather patterns and increasing ambient temperature underscore the importance of hazard mitigation projects for communities in hazard-prone areas such as the Town of Dover.

In July 2016, Dover adopted the NYS DEC Climate Smart Community (CSC) Pledge and initiated actions to complete CSC certification with creation of the Climate Smart Dover Task Force. Since adoption of the CSC Pledge, town leaders and task force members have made significant progress toward certification with funding assistance of CSC certification program grants awarded by the DEC’s Office of Climate Change.



As part of ongoing efforts to complete Climate Smart Communities certification, the Town completed a Government Operations Greenhouse Gas (GHG) Emissions Inventory, Target Reduction Plan and Government Operations Climate Action Plan in January 2019. The Government Operations GHG Inventory identified three primary sources of municipal GHG emissions and one, five and ten-year target reductions to achieve 3%, 10% and 20% reductions based on a 2017 base year inventory. The Town’s Government Operations Climate Action Plan proposed completion of action items for CSC certification in 2020, the retrofit of town facilities lighting at Dover Town Hall and Boyce Park, and the replacement of Town-operated streetlights to LED energy-efficient fixtures.

In June 2019 the Town Board completed and adopted a town-wide Road-Stream Crossing Inventory and Vulnerability Assessment Study that included assessments of Dover’s 124 road-stream crossings. Results of the study included a multiple-ranked priority stream crossings and prioritization of the top 12 crossings for remediation and upgrade based on site inspections and flood risk modeling analyses

The Town is currently completing a Comprehensive Plan Update that will also include a Sustainability Element (chapter). The Element will integrate multi-faceted sustainability policies and practices as core components of the Town's future residential, commercial, recreational and open space development.

Following a review of the Town's documents related to hazard mitigation using the Climate Smart Resiliency Planning checklist as a guide, the following opportunities are proposed:

- **Implement priority road-stream crossing projects identified in the town-wide Road-Stream Crossing Vulnerability Assessment study**
- **Implement goals of the Town's Government Operations GHG Emissions Target Reduction Plan and Govt. Operations Climate Action Plan**
- **Develop a community climate action plan that includes a community sustainability element**
- **Train building and permitting officials on retrofitting flood-prone residential buildings (and after, provide property owners with guidelines for retrofitting existing homes)**
- **Facilitate post-flood stream intervention training for community officials**
- **Promote agricultural transfer or purchase of development rights to preserve open space**
- **Educate residents about the control of invasive plant species especially near waterways**
- **Join the National Flood Insurance Program's Community Rating System**
- **Continue participation in the intermunicipal Ten Mile River Watershed Collaborative to develop and implement plans and projects that protect water quality and climate resilience of the natural and built environment and**
- **Investigate and pursue grant programs to help fund and implement mitigation projects.**

Conclusion

The Town of Dover prepared this publication, "A Review of Plans, Policies and Procedures based on the Climate Smart Resiliency Planning Checklist" to assess and better understand our municipal strengths, vulnerabilities and risks to climate change and adaptation.

With the technical assistance of a local environmental research and advocacy organization, the Housatonic Valley Association, Inc., municipal plans, policies and procedures were reviewed

using the framework of the NYS DEC's Climate Smart Resiliency Planning Checklist. This report utilized available studies and publications prepared by the Town of Dover, Dutchess County and other local and regional resources to assess the Town's vulnerabilities and risks to the negative impacts of climate change.

Utilizing the Climate Smart Resiliency Planning Checklist, this report proposes recommendations to help the Town of Dover better prepare, regularly reassess risks and vulnerabilities, integrate and improve existing plans, and complete mitigation projects that may result in sustainable climate adaptation.

The following pages provide summaries of this report's recommendations based on the four components of "climate resiliency: preparation, assessing risks and vulnerabilities and implementing mitigation projects.

It is our hope that town leaders who peruse these summaries will be compelled to take actions that help preserve and protect Dover's most precious asset- our children and all residents who lovingly call our community "Home."

1. Plans to Increase Dover’s Resilience to Climate Change	Town Involved and Interested Departments/Entities	Notes for Follow-up
Open Space Plan	Town Board Conservation Advisory Council Town Trails Committee Recreation Dept.	
Floodplain Management Plan	Town Board Building Dept. and Code Enforcement Planning/Zoning Boards	
Natural Resource Conservation Plan	Town Board Conservation Advisory Council	
Watershed Management Plan	Town Board Conservation Advisory Council	
Economic Development Plan or Strategy	Town Board Local Businesses Community organizations Planning/Zoning Boards	
Evacuation Plan	Town Board Town Fire Dept. Town Law Enforcement Town Clerk	
Continuity of Operations Plan	Town Board Town Clerk Town Fire Dept. Town Finance Dept.	
Historic Preservation Plan	Town Board Town Historians Town Historical Society	
Community Climate Action Plan	Town Board Climate Smart Dover Task Force Conservation Advisory Council	
Capital Improvement Plan	Town Board Town Highway/Recreation Town Finance Dept.	

2. Actions to Help Decrease Dover’s Vulnerability and Risk to Climate Change	Town Involved and Interested Departments/Entities	Notes for Follow-Up
<p>Train appropriate municipal employees in the use of FEMA’s HAZUS-MH technology through the Emergency Management Institute’s Course E0190 (ArcGIS for Emergency Managers).</p> <p>The FEMA Emergency Management Institute offers this course as a prerequisite to Course E0313 Basic HAZUS and EO179 HAZUS for Disaster Operations at the National Emergency Training Center in Emmittsburg, MD (not currently offered as an online independent study course).</p>	<p>Town Board Building Inspector Code Enforcement Officer Information Technology (IT) Staff</p>	
<p>Work with county government and local land use agencies to obtain information to adequately insure, reduce and mitigate potential damage due to the negative impacts of climate change.</p>	<p>Town Board Land Use Agencies Dutchess County Planning Board</p>	
<p>Familiarize municipal staff and officials with areas of town most susceptible to natural hazards and populations most affected.</p>	<p>Town Board Building Inspector Building Dept. staff Code Enforcement Officer Local Law Enforcement Highway Dept.</p>	
<p>Disseminate information from FEMA floodplains and the Town’s road-stream crossing inventory and vulnerability assessment study. Ensure officials and staff understand the limitation of these data.</p>	<p>Town Board Highway Dept. Town Engineer</p>	

2. Actions to Help Decrease Dover’s Vulnerability and Risk to Climate Change (cont.)	Town Involved and Interested Departments/Entities	Notes for Follow-Up
Increase capacities of town officials, board members and staff to use GIS to help integrate vulnerability assessments into land use planning.	Town Board Building Inspector and Dept. Staff Code Enforcement Officer Planning/Zoning Boards Highway Dept. IT Staff	
Explore enrollment in the National Flood Insurance Program (NFIP) and Community Rating System (CRS).	Town Board Building Inspector Building Dept. staff	
Develop and maintain an inventory of properties damaged by flooding.	Town Board Building Inspector, Code Enforcement Officer and Dept. Staff Town Clerk	

3. Actions to Improve Dover’s Public Outreach and Engagement	Town Involved and Interested Departments/Entities	Notes for Follow-Up
<p>Conduct periodic local or regional public information trainings and workshops about preparing for storms and natural disasters utilizing existing information from FEMA, NOAA and other organizations specializing in natural hazard education.</p>	<p>Town Board FEMA/NOAA NYS Office of Emergency Management Dutchess Co. Dept. of Emergency Response Local first responder agencies American Red Cross</p>	
<p>Provide information for residents to prepare at-home emergency kits, Go-bags and emergency supplies for guidance on development of personal and family evacuation and shelter-in-place strategies.</p>	<p>Town Board Dutchess County Dept. of Emergency Response NYS Office of Emergency Management Local animal shelters and veterinarians American Red Cross Neighboring municipalities</p>	
<p>Disseminate floodplain maps and educate property owners in those areas about historical hazards and mitigation programs to improve the structures in flood prone, high hazard areas.</p>	<p>Town Board FEMA National Flood Insurance Program Cornell Cooperative Extension Dutchess County Soil and Water Conservation Housatonic Valley Association</p>	
<p>Educate residents about disaster preparedness for domesticated animals and locations of pet shelters.</p>	<p>Town Board Local animal shelters and veterinarians Dutchess Co. Dept. of Emergency Response</p>	

3. Actions to Improve Dover's Public Outreach and Engagement (continued)	Town Involved and Interested Departments/Entities	Notes for Follow-Up
Install high water mark signs in public areas to educate the community about flood risk.	Town Board Highway Department Building Inspector Code Enforcement Officer Dutchess County Public Works NYS Dept. of Transportation	
Continue Town's participation in the intermunicipal Ten Mile River Watershed Collaborative and utilize resources to develop a local waterfront revitalization program component and/or prepare a watershed management plan.	Town Board Conservation Advisory Council (CAC's) Housatonic Valley Association Neighboring communities with CAC's	

4. Actions to Better Integrate Dover’s Plans	Town Involved and Interested Departments/Entities	Notes for Follow-Up
Adopt the Comprehensive Plan Update and Sustainability Element with zoning updates that identify flood prone lands and discourage development in those areas (or require strategies to reduce flood damage to buildings).	Town Board Comprehensive Plan Update Technical Review Committee Comprehensive Plan Update Committee Sustainable Dover Task Force	
Incorporate how land use recommendations in the Comprehensive Plan Update and Sustainability Element utilize information identified in the Dutchess County Natural Hazard Mitigation Plan (i.e., equitable approaches to decisions about repeatedly flooded properties).	Town Board	
Investigate adoption of the International Building Code of American Society of Civil Engineers (ASCE) standards that promote flood-resistant buildings.	Town Board Building Inspector Code Enforcement Officer	
Adopt policies that encourage development in safer growth areas in the community.	Town Board	
Develop a Town Capital Improvement Plan that supports development in safer growth areas.	Town Board	

4. Actions to Better Integrate Dover’s Plans (cont.)	Town Involved and Interested Departments/Entities	Notes for Follow-Up
Investigate adoption of the concepts of “No Adverse Impact” of the Association of State Floodplain Managers.	Town Board	
Review and update intergovernmental and neighboring local governments’ mutual aid agreements in coordinating intermunicipal disaster responses.	Town Board	
Develop and adopt a town-wide floodplain management plan.	Town Board	
Assist the Building Inspector/Code Enforcement Officer with floodplain management certification training.	Town Board Finance Dept. Building Inspector and Code Enforcement Officer	
Enroll Dover in the National Flood Insurance Program and Community Rating System.	Town Board	

5. Actions to Increase Disaster Preparedness and Recovery	Town Involved and Interested Departments/Entities	Notes for Follow-Up
Develop a community evacuation plan (including assistance for populations with special needs), a continuing of operations plan and disaster plan with short and long-term recovery plans.	Town Board Local nonprofit agencies Special population-serving agencies Local transportation providers Residents in need	
Establish and train a volunteer Community Emergency Response Team (CERT).	Town Board Dutchess Co. Dept. of Emergency Response NYS Office of Emergency Management Interested residents	
Prepare heat warming system and cooling-center programs that also address issues of transportation obstacles, effect of power outages, flood and other needs of vulnerable populations.	Town Board Local volunteers Dover schools Nonprofits Local businesses Local transportation providers	
Identify and designate areas for temporary waste management and disposal staging areas.	Town Board Highway Dept.	
Develop procedures to conduct habitability and substantial damage assessments for structure in hazard areas.	Town Board Building Inspector Code Enforcement Officer	
Adopt legislation regarding floodplain development limits that prohibit or reduce any new encroachment in river corridors and fluvial erosion hazard areas.	Town Board	

6. Actions to Reduce Dover's Risks to People and Property from Natural Hazards	Town Involved and Interested Agencies/Entities	Notes for Follow-Up
Implement priority road-stream crossing projects identified in the town-wide road-stream crossing inventory and vulnerability assessment study.	Town Board Highway Department Dutchess County Public Works NYS DOT	
Implement goals of the Town's Government Operations Greenhouse Emissions Target Reduction Plan and Govt. Operations Climate Action Plan.	Town Board Highway Superintendent Town Clerk Town Dept. Heads All Town employees	
Provide training for building and permitting officials on retrofitting flood-prone residential buildings (and after, provide property owners with guidelines for retrofitting existing homes.	Town Board Building Inspector Code Enforcement Officer Planning Board Zoning Board	
Facilitate post-flood stream intervention training for community officials.	Town Board Building Inspector Code Enforcement Officer	
Continue to promote transfer or purchase of development rights to preserve open space.	Town Board	
Educate residents about control of invasive plant species especially near waterways.	Town Board Conservation Advisory Council Local Land Use Agencies	

6. Actions to Reduce Dover's Risks to People and Property from Natural Hazards (cont.)	Town Involved and Interested Agencies/Entities	Notes for Follow-Up
<p>Join the National Flood Insurance Program's Community Rating System for community floodplain management that also may reduce insurance premiums for residents and businesses.</p>	<p>Town Board Residents who live in flood prone areas</p>	
<p>Investigate and pursue grant programs to help fund and implement mitigation projects.</p>	<p>Town Board Highway Superintendent FEMA Dutchess County</p>	